Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Original) An Activity Dependent Neurotrophic Factor I (ADNF I) polypeptide, the ADNF I polypeptide comprising an active core site having the following amino acid sequence:

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1),

wherein the active core site comprises at least one D-amino acid.

2. (Original) The ADNF I polypeptide of claim 1, wherein either an N-terminal amino acid or a C-terminal amino acid of the active core site is a D-amino acid.

3. (Original) The ADNF I polypeptide of claim 1, wherein both N-terminal and C-terminal amino acids of the active core site are D-amino acids.

4. (Original) The ADNF I polypeptide of claim 1, wherein the active core site comprises all D-amino acids.

5. (Original) The ADNF I polypeptide of claim 1, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

6. (Original) The ADNF I polypeptide of claim 5, wherein the ADNF I polypeptide comprises all D-amino acids.

7. (Original) The ADNF I polypeptide of claim 1, wherein the ADNF I polypeptide is selected from the group consisting of:

Val-Leu-Gly-Gly-Gly- Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:14);

Val-Glu-Glu-Gly-Ile-Val-Leu-Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:15);

Leu-Gly-Gly-Gly- Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:16);

Gly-Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:17);

Gly-Gly-Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:18); and

Gly- Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:19).

8. (Original) The ADNF I polypeptide of claim 1, wherein the ADNF I polypeptide comprises up to about 20 amino acids at each of an N-terminus and a C-terminus of the active core site.

9. (Original) The ADNF I polypeptide of claim 8, wherein both N-terminal and C-terminal amino acids of the ADNF I polypeptide are D-amino acids.

10-18. (Cancelled)

19. (Currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable excipient and a mixture of ~~an~~ the Activity Dependent Neurotrophic Factor I ~~(ADNF)~~ (ADNF I) polypeptide of claim 1 and an ADNF III polypeptide comprising an active core site having the following amino acid sequence: Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2)~~, wherein the ADNF polypeptide is a member selected from the group consisting of:~~

~~(a) an ADNF I polypeptide comprising an active core site having the following amino acid sequence:~~

~~Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1);~~

~~(b) an ADNF III polypeptide comprising an active core site having the following amino acid sequence:~~

~~Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2); and~~

~~(c) a mixture of the ADNF I polypeptide of part (a) and the ADNF III polypeptide of part (b);~~

~~wherein at least one of the ADNF I polypeptide and the ADNF III polypeptide comprises an active core site comprising at least one D-amino acid~~.

20. (Cancelled)

21. (Currently amended) The pharmaceutical composition of claim ~~20~~ 19, wherein both N-terminal and C-terminal amino acids of the active core site of the ADNF I polypeptide are D-amino acids.

22. (Currently amended) The pharmaceutical composition of claim ~~20~~ 19, wherein the active core site of the ADNF I polypeptide comprises all D-amino acids.

23. (Currently amended) The pharmaceutical composition of claim ~~20~~ 19, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

24. (Original) The pharmaceutical composition of claim 23, wherein the ADNF I polypeptide comprises all D-amino acids.

25. (Currently amended) The pharmaceutical composition of claim 19, wherein ~~the ADNF polypeptide is an ADNF III polypeptide and wherein~~ the active core site of the ADNF III polypeptide comprises at least one D-amino acid.

26. (Original) The pharmaceutical composition of claim 25, wherein both N-terminal and C-terminal amino acids of the active core site of the ADNF III polypeptide are D-amino acids.

27. (Original) The pharmaceutical composition of claim 25, wherein the active core site of the ADNF III polypeptide comprises all D-amino acids.

28. (Original) The pharmaceutical composition of claim 25, wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

29. (Original) The pharmaceutical composition of claim 28, wherein the ADNF III polypeptide comprises all D-amino acids.

30. (Cancelled)

31. (Currently amended) The pharmaceutical composition of claim ~~30~~ 19, wherein both N-terminal and C-terminal amino acids of the active core site of the ADNF I polypeptide are D-amino acids, and wherein both N-terminal and C-terminal amino acids of the active core site of the ADNF III polypeptide are D-amino acids.

32. (Currently amended) The pharmaceutical composition of claim ~~30~~ 19, wherein the active core site of the ADNF I polypeptide comprises all D-amino acids, and wherein the active core site of the ADNF III polypeptide comprises all D-amino acids.

33. (Currently amended) The pharmaceutical composition of claim ~~30~~ 19, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1) and wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

34. (Original) The pharmaceutical composition of claim 33, wherein the ADNF I polypeptide comprises all D-amino acids and wherein the ADNF III polypeptide comprises all D-amino acids.

35. (Currently amended) The pharmaceutical composition of claim ~~30~~ 19, wherein the ADNF polypeptide I comprises all D-amino acids and wherein the ADNF III polypeptide comprises all L-amino acids.

36. (Currently amended) The pharmaceutical composition of claim ~~30~~ 19, wherein the ADNF I polypeptide comprises all L-amino acids, and wherein the ADNF III polypeptide comprises all D-amino acids.

37. (Original) The pharmaceutical composition of claim 19, wherein the composition is formulated for intranasal, intraperitoneal, subcutaneous, gavage, sublingual, intravenous, or oral administration.

38. (Original) The pharmaceutical composition of claim 19, wherein the composition is formulated for oral administration.

39. (Original) The pharmaceutical composition of claim 22, wherein the composition is formulated for oral administration.

40. (Original) The pharmaceutical composition of claim 27, wherein the composition is formulated for oral administration.

41. (Original) The pharmaceutical composition of claim 32, wherein the composition is formulated for oral administration.

42. (Original) A method for reducing neuronal cell death, the method comprising contacting the neuronal cells with an Activity Dependent Neurotrophic Factor (ADNF) polypeptide in an amount sufficient to prevent neuronal cell death, wherein the ADNF polypeptide is a member selected from the group consisting of:

(a) an ADNF I polypeptide comprising an active core site having the following amino acid sequence:

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1);

(b) an ADNF III polypeptide having the following amino acid sequence:

Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2); and

(c) a mixture of the ADNF I polypeptide of part (a) and the ADNF III polypeptide of part (b);

wherein at least one of the ADNF I polypeptide and the ADNF III polypeptide comprises an active core site comprising at least one D-amino acid.

43. (Original) The method of claim 42, wherein the ADNF polypeptide is an ADNF I polypeptide and wherein the active core site of the ADNF I polypeptide comprises all D-amino acids.

44. (Original) The method of claim 43, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

45. (Original) The method of claim 44, wherein the ADNF I polypeptide comprises all D-amino acids.

46. (Original) The method of claim 42, wherein the ADNF polypeptide is an ADNF III polypeptide and wherein the ADNF III polypeptide comprises all D-amino acids.

47. (Original) The method of claim 46, wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

48. (Original) The method of claim 47, wherein the ADNF III polypeptide comprises all D-amino acids.

49. (Original) The method of claim 42, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and wherein the ADNF I polypeptide and the ADNF III polypeptide both comprise all D-amino acids.

50. (Original) The method of claim 49, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1) and wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

51. (Original) The method of claim 42, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b), and wherein the ADNF I polypeptide comprises all D-amino acids and wherein the ADNF III polypeptide comprises all L-amino acids.

52. (Original) The method of claim 42, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b), and wherein the ADNF I polypeptide comprises all L-amino acids and wherein the ADNF III polypeptide comprises all D-amino acids.

53. (Original) The method of claim 42, wherein the neuronal cells are selected from the group consisting of spinal cord neurons, hippocampal neurons, cerebral cortical neurons and cholinergic neurons.

54. (Original) The method of claim 42, wherein the neuronal cell death is in a patient infected with immunodeficiency virus.

55. (Original) The method of claim 54, wherein the immunodeficiency virus is a human immunodeficiency virus.

56. (Original) The method of claim 42, wherein the neuronal cell death is associated with excito-toxicity induced by N-methyl-D-aspartate stimulation.

57. (Original) The method of claim 42, wherein the neuronal cell death is induced by the beta-amyloid peptide in a patient afflicted with Alzheimer's disease.

58. (Original) The method of claim 42, wherein the neuronal cell death is induced by cholinergic blockade in a patient afflicted with Alzheimer's disease, the cholinergic blockade resulting in learning impairment.

59. (Original) A method for treating oxidative stress in a patient, the method comprising administering to the patient an Activity Dependent Neurotrophic Factor (ADNF) polypeptide in an amount sufficient to reduce oxidative stress, wherein the ADNF polypeptide is a member selected from the group consisting of:

(a) an ADNF I polypeptide comprising an active core having the following amino acid sequence:

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1);

(b) an ADNF III polypeptide having the following amino acid sequence:

Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2); and

(c) a mixture of the ADNF I polypeptide of part (a) and the ADNF III polypeptide of part (b);

wherein at least one of the ADNF I polypeptide and the ADNF III polypeptide comprises an active core site comprising at least one D-amino acid.

60. (Original) The method of claim 59, wherein the ADNF polypeptide is an ADNF I polypeptide, and wherein the active core site of the ADNF I polypeptide comprises all D-amino acids.

61. (Original) The method of claim 60, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

62. (Original) The method of claim 61, wherein the ADNF I polypeptide comprises all D-amino acids.

63. (Original) The method of claim 59, wherein the ADNF polypeptide is an ADNF III polypeptide, and wherein the ADNF III polypeptide comprises all D-amino acids.

64. (Original) The method of claim 63, wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

65. (Original) The method of claim 64, wherein the ADNF III polypeptide comprises all D-amino acids.

66. (Original) The method of claim 59, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and wherein the ADNF I polypeptide and the ADNF III polypeptide both comprise all D-amino acids.

67. (Original) The method of claim 66, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1) and wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

68. (Original) The method of claim 59, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and

wherein the ADNF I polypeptide comprises all D-amino acids and wherein the ADNF III polypeptide comprises all L-amino acids.

69. (Original) The method of claim 59, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and wherein the ADNF I polypeptide comprises all L-amino acids and wherein the ADNF III polypeptide comprises all D-amino acids.

70. (Original) A method for reducing a condition associated with fetal alcohol syndrome in a subject who is exposed to alcohol in utero, the method comprising administering to the subject an ADNF polypeptide in an amount sufficient to reduce the condition associated with fetal alcohol syndrome, wherein the ADNF polypeptide is a member selected from the group consisting of:

(a) an ADNF I polypeptide comprising an active core site having the following amino acid sequence:

Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1);

(b) an ADNF III polypeptide having the following amino acid sequence:

Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2); and

(c) a mixture of the ADNF I polypeptide of part (a) and the ADNF III polypeptide of part (b);

wherein at least one of the ADNF I polypeptide and the ADNF III polypeptide comprises an active core site comprising at least one D-amino acid.

71. (Original) The method of claim 70, wherein the ADNF polypeptide is an ADNF I polypeptide, and wherein the ADNF I polypeptide comprises all D-amino acids.

72. (Original) The method of claim 71, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1).

73. (Original) The method of claim 72, wherein the ADNF I polypeptide comprises all D-amino acids.

74. (Original) The method of claim 70, wherein the ADNF polypeptide is an ADNF III polypeptide, and wherein the ADNF III polypeptide comprises all D-amino acids.

75. (Original) The method of claim 74, wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

76. (Original) The method of claim 70, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and wherein the ADNF I polypeptide and the ADNF III polypeptide both comprise all D-amino acids.

77. (Original) The method of claim 76, wherein the ADNF I polypeptide is Ser-Ala-Leu-Leu-Arg-Ser-Ile-Pro-Ala (SEQ ID NO:1) and wherein the ADNF III polypeptide is Asn-Ala-Pro-Val-Ser-Ile-Pro-Gln (SEQ ID NO:2).

78. (Original) The method of claim 70, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and wherein the ADNF I polypeptide comprises all D-amino acids and wherein the ADNF III polypeptide comprises all L-amino acids.

79. (Original) The method of claim 70, wherein the ADNF polypeptide is a mixture of an ADNF I polypeptide of part (a) and an ADNF III polypeptide of part (b) and wherein the ADNF I polypeptide comprises all L-amino acids and wherein the ADNF III polypeptide comprises all D-amino acids.

80. (Original) The method of claim 70, wherein the condition is selected from the group consisting of: a decreased body weight of a subject; a decreased brain weight of the subject; a decreased level of VIP mRNA of a subject; and death of a subject in utero.